

not only played a significant role in enabling the ILECs to acquire a monopoly share (94%)¹⁸⁰ of the residential DSL market that nearly equals the ILECs' market share for residential/small business POTS (94.2%),¹⁸¹ it has also led to higher prices which only the remaining data CLECs (primarily Covad) are struggling to combat through intramodal competition.

C. Despite the ILECs' Attempts to Confuse the Issues, Nothing About the Deployment of an NGDLC Loop Changes Either the Basic Characteristics of a Loop or the CLECs' Right to Access Such Loops as an Unbundled Element.

The CLEC and State commission comments overwhelmingly demonstrate that the functionality of the unbundled loop element – and not packet switching – is the relevant reference point for determining whether competitors are impaired without unbundled access to the unified loop. The ILECs, particularly SBC, however, raise a series of interrelated but essentially irrelevant arguments in an obvious attempt to avoid their clear loop unbundling obligations when they deploy NGDLC architecture. SBC at 45-55; *see also* Qwest at 42-44; Verizon at 82-83. These arguments are nothing more than a smokescreen that has been manufactured to circumvent the Commission's unbundling rules by bootstrapping the Commission's 1999 analysis of central office packet switching (*UNE Remand Order* ¶¶ 306-

(... continued)

(available at <http://www.covad.com/companyinfo/inthenews.shtml>); Brian Hammond, *Covad Sees 'Remarkable Demand' for Broadband at Right Price*, TR Daily (June 19, 2002) (same).

¹⁸⁰ See TeleChoice DSL Summary. Overall, the ILECs have acquired approximately 90% of the DSL market. *Id.* For example, Covad has indicated that it turned away over 24,000 end users across the country because they could only be served over a fiber-fed DSL-capable loop configuration. Covad at 59.

¹⁸¹ See Industry Analysis Division, *Local Telephone Competition: Status as of June 30, 2001*, Federal Communications Commission, Common Carrier Bureau (Feb. 2002) (showing that CLEC share of end user switch access was 9% overall and 5.8% of the residential/small business segment).

308) to foreclose access to the functionality of the entire loop element, which the Commission,¹⁸² the D.C. Circuit,¹⁸³ and the Supreme Court¹⁸⁴ all recognize is the most time-consuming and expensive network element to duplicate. In essence, the ILECs' arguments, taken together, reduce to the proposition that a loop simply ceases to exist when a customer's high-frequency traffic is transmitted in a packetized form over equipment and facilities between a customer's premises and the incumbent's central office. *See, e.g.,* SBC at 45-51. This magical disappearing act is contrary to every fact, law, and public policy associated with the Commission's loop unbundling rules, and must be flatly rejected.

First, SBC asserts that its Project Pronto architecture need not be unbundled because it already fits within the Commission's definition and analysis of central office packet switching capability, not within the current definition of a loop. *Id.* at 47-50. SBC claims that, because "packet switching capability" includes both "routing" and "forwarding," the Commission should exclude from the definition of a loop any facility, feature, or functionality used to distribute a customer's traffic in packetized form. *Id.* at 48. This disingenuous interpretation of the Commission's rules deliberately confuses transmissions in a packet *format* with packet *switching* in order to avoid the obvious result of applying the impairment analysis to the ILECs' NGDLC loop plant. *See id.* ("Packet technology may switch individual packets, or it may simply forward them along toward their destination. In either case, the Commission's rules exempt the

¹⁸² *Michigan* 271 Order ¶ 12; *Broadband NPRM* ¶ 29; *Local Competition Order* ¶ 378; *UNE Remand Order* ¶¶ 183, 211, 356.

¹⁸³ *USTA*, 290 F.3d at 426.

¹⁸⁴ *Verizon*, 122 S. Ct. at 1662.

technology from unbundling, thus avoiding any artificial segmentation of the market based on whether pure packet switching is performed.”). It is incorrect both as a matter of law and fact.

Despite SBC’s attempt to confuse the issues, this is not a close question. The comments of the Illinois and California commissions and diverse members of the CLEC community overwhelmingly confirm AT&T’s showing (at 179-90) that nothing about the NGDLC loop architecture the ILECs are installing changes the functionality that is being provided or the CLECs’ right to provide telecommunications service by accessing a unified loop as an unbundled element. *See, e.g.,* California at 9-11; Illinois at 4-5; WorldCom at 58-61; Covad at 34, 43-45; Sprint at 18-19; ALTS at 82-86; Fiber/Switch-Based CLEC Coalition at 71-75. Indeed, the legal argument supporting the CLECs’ position is straightforward and compelling: CLECs are entitled to nondiscriminatory access to unbundled loops “used in the provision of a telecommunications service,” including all “features, functions, and capabilities that are provided by means of such facility or equipment,” if they are impaired in their ability to offer such service without access to those loops, subject “only to considerations of technical feasibility.” 47 U.S.C. § 153(29); *Advanced Services Order* ¶¶ 11, 106; *see also* 47 C.F.R. § 51.319(a)(1) (“The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises”); *Local Competition Order* ¶ 379; *Advanced Services Order* ¶ 53. Significantly, just last year, even Qwest appeared to agree that CLECs are impaired without unbundled access to unified loops, stating: “it is also important to keep in mind that CLECs still need access to ILEC loops in order to provide DSL services. *It would be a serious mistake, in today’s marketplace, to allow a situation to develop whereby CLECs were unable to make*

efficient and cost-effective use of ILEC loops.” Qwest Line Sharing Recon. Order NPRM Comments at 3 (emphasis added).

SBC’s approach, however, would require the Commission to exclude NGDLC outside loop plant from the loop element *solely* on grounds that ILECs have unilaterally elected to change the technology used to transmit customer traffic between a remote terminal and the central office. The Communications Act and the Commission’s definition of loops do not authorize the Commission to make such distinctions. *See, e.g.,* AT&T at 173-78; Covad at 54-55, 60; WorldCom at 113-17. The Commission has correctly determined that the essential function of the loop (as opposed to a *subloop*) is to provide transmission functionality between a customer’s premises *and an ILEC’s central office* – not, as the ILECs would have it, between a customer’s premises and an intermediate point such as a remote terminal.

The Commission has also repeatedly recognized that the local loop, like all network elements, is defined by its functionality and is not limited to particular services or technologies. In the *Local Competition Order*, the Commission concluded that:

Section 251(c)(3) requires incumbent LECs to provide requesting carriers with all of the functionalities of a particular element, so that requesting carriers can provide *any telecommunications services* that can be offered by means of the element.

Local Competition Order ¶ 292 (emphasis added).¹⁸⁵

¹⁸⁵ *See also Advanced Services Order* ¶ 53 (“section 251(c)(3) does not limit the types of telecommunications services that competitors may provide over unbundled elements to those offered by the incumbent LEC”) (quoting *Local Competition Order* ¶ 382). As AT&T explained in the Wireline Broadband Classification Proceeding, CLECs would be entitled to use the full capabilities of the loops even if the Commission were to rule that stand alone broadband transmission services were exempt from Title II. Reply Comments of AT&T, CC Docket 02-33 (filed July 1, 2002). This is because, so “long as a competitor uses the leased element in part to provide telecommunications service, the FCC cannot further limit the uses to which the carrier puts those elements.” *Id.* at 33.

For these reasons, the Act does not permit the ILECs to evade their loop unbundling obligations through limiting restrictions based on the date the loop was constructed, the telecommunications services that are provided, or the technology that is employed over the transmission facilities between the customer's premises and the ILECs' central office. Covad at 54; McLeod at 6; ALTS at 84-86; WorldCom at 101-02, 106, 113-14; GCI at 45, Maine CLECs at 6-7; Sprint at 19-20. As AT&T has shown numerous times over the past two years,¹⁸⁶ the Commission has repeatedly recognized that such service- and technology-based distinctions are impermissible because they would "encourage incumbent LECs to 'hide' loops from competitors" *Local Competition Order* ¶ 383; *see also Advanced Services Order* ¶ 53; *Line Sharing Reconsideration Order* ¶ 10. Moreover, any such limiting restrictions would permit the ILECs to make both the loop disappear every time the ILECs elected to upgrade a basic-voice fiber-fed, DLC architecture (which the ILECs admit is subject to the loop unbundling) to NGDLC architecture (which the ILECs claim should not be subject to unbundling) by adding RT-based plug ins and OCDs onto the loop. Any such limiting restrictions would not only be arbitrary and capricious, they also cannot be squared with any rational interpretation of the impairment analysis under section 251(d)(2).

Critically, the record continues to show that there is nothing about the NGDLC-loop architecture now being installed by the ILECs that changes *either* the basic characteristics of a loop ("unified" or otherwise) *or* CLECs' rights to access a DLC-equipped, fiber-fed loop as an unbundled element (or to access a DLC-equipped, fiber-fed loop for line splitting purposes). As AT&T showed in the *Wireline Broadband Classification NPRM* proceeding, the local loop is a

¹⁸⁶ See AT&T *Fifth FNPRM* Comments at 44-50, AT&T *Fifth FNPRM* Reply Comments at 39-54, AT&T *Line Sharing Recon. Order* Comments at 2-4, 7-14, AT&T *Line Sharing Recon. Order* Reply Comments at 3-12.

network facility, and a carrier requesting access to a full local loop receives exclusive control of that facility and the right to provide services over it. AT&T Comments, CC Docket 02-33 at 34 (filed May 3, 2002) (citing Joint Explanatory Statement at 116). Thus, a CLEC's ability to provide line splitting over a unified loop element cannot be questioned. Indeed, the line splitting provisions of the *Line Sharing Reconsideration Order* were not even a subject of the appeal decided in *USTA*.¹⁸⁷ Moreover, while the D.C. Circuit required the Commission to review the *Line Sharing Order* in light of the possible impacts of intermodal competition, the court specifically upheld the Commission's determination that the high frequency spectrum ("HFS") of the loop could qualify as a network element, *USTA*, 290 F.3d at 430, and there can be no debate that the loop itself is a separate and distinct physical entity no matter how it is provisioned. Thus, the impairment analysis relating to the entire loop (and line splitting) set forth above applies equally to line sharing.¹⁸⁸

In fact, NG-enhanced unified loops provide *exactly* what the traditional loop has always provided: transmission functionality for telecommunications signals between a customer's premises and the serving ILEC's central office. AT&T at 179-89. Neither the Act nor the Commission's prior rulings regarding the loop network element makes any distinction between the transmission functionality used to provide DSL-based services and that used to provide

¹⁸⁷ No party challenged the portion of the *Line Sharing Reconsideration Order* (§§ 14-26) relating to line splitting. See Brief of Intervenors in Support of Respondents, Nos. 00-1015, 1025, at 2 n.3 (D.C. Cir.). As noted in the Commission's *Line Sharing Recon. Order*, "independent of the unbundling obligations associated [line sharing], incumbent LECs must allow competing carriers to offer both voice and data service over a single unbundled loop." *Line Sharing Reconsideration Order* ¶ 18. Unlike line sharing, the Commission found that line splitting is encompassed within the existing definition of the unbundled loop element. See *id.*

¹⁸⁸ In addition, for the reasons set forth in Part VII.B.2.d., *supra* any ILEC suggestion that the HFS spectrum should be stripped from the loop UNE should be rejected.

“traditional” voice services between the customer’s premises and the central office. Indeed, the Commission’s past decisions make it abundantly clear that loop unbundling obligations extend to remote terminals, DLCs, and other intermediate electronics on fiber-fed loops;¹⁸⁹ multiplexing/demultiplexing functionality;¹⁹⁰ and fiber feeder between the customer’s home and the ILEC’s central office, even when shared among carriers.¹⁹¹ These decisions are entirely consistent with the Commission’s loop definition, because the one of the principal reasons for deploying DLC is to increase network efficiencies in the loop plant, *not* to perform different (non-transmission related) network functions such as switching.¹⁹² There is no basis for the Commission to exclude RT-deployed functionalities from either the loop definition or the impairment analysis associated with the loop element, especially given the incremental nature and rapid ILEC deployment of NGDLC architectures. Moreover, any contrary decision would be patently discriminatory because it would allow only the ILEC to access the entire spectrum on the loop, denying CLECs access to the *same* functionality on the *same* loops.

SBC’s “packet switching network” analysis is also factually wrong. SBC argues that an NGDLC configuration between the customer’s premises and the ILEC’s central office should not be subject to the Commission’s loop unbundling rules when it is used to transmit high-frequency

¹⁸⁹ See, e.g., *Local Competition Order* ¶¶ 383-85; *New York 271 Order* ¶ 271.

¹⁹⁰ AT&T at 181 (citing *Local Competition Order* ¶ 383); Covad at 64-65; WorldCom at 78-79.

¹⁹¹ See, e.g., *Local Competition Order* ¶ 381; *UNE Remand Order* ¶ 165; *AT&T Corp. v. FCC*, 220 F.3d 607, 618-19 (D.C. Cir. 2000); see also *Line Sharing Reconsideration Order* ¶ 18. AT&T addressed this issue in full in the *Line Sharing Recon. Order* Comments at 10-14, and Reply Comments at 5-6, 10.

¹⁹² *Project Pronto Waiver Order* ¶ 4 nn.9-11 (“[a] DLC system converts analog signals, from many copper loops that terminate at a remote terminal, into digital signals, multiplexes the signals, and transports them over fiber or copper to the central office. DLC systems are usually
(continued . . .)

traffic. Thus, under its own analysis, SBC illogically argues that a unified loop may be unbundled when it is used for low-frequency voice service (SBC at 45, "Loop 2" Diagram) but that the very same unified loop may not be unbundled when it is used to transmit any high-frequency DSL services (SBC at 45, "Loop 3" Diagram).¹⁹³ But SBC's attempt to distinguish between high- and low-frequency traffic cannot be squared with the Commission's technology- and service-neutrality principles that define the loop element, especially since the high frequency spectrum can be used to provide voice services to end users.¹⁹⁴ Thus, any attempt to make a distinction between narrowband and "broadband" functionalities on the basis of the services that they provide is itself fatally flawed.

As AT&T has repeatedly explained and other CLECs recognize, the additional equipment used to implement the ILECs' NGDLC architecture (line cards containing DSLAM functionality at the RT, fiber feeder and optical concentration devices ("OCDs")) provide *only* the function that the "traditional" loop has always provided: transmission functionality between a customer premises and the serving ILEC central office. *See, e.g.*, AT&T at 172-78; Covad at 54-55, 60; WorldCom at 113-17.

(... continued)

deployed to reduce the costs associated with constructing additional feeder pairs and to provide a flexible means for offering other telecommunications services.").

¹⁹³ *See* SBC at 45 (Loop 2 is "part of the embedded legacy network and [is] available to CLECs today on an unbundled basis"). Notably, while SBC's loop configuration indicates that low-frequency and high-frequency traffic are transmitted over separate fiber facilities (*compare* SBC Loop Diagram 2 *with* Loop 3 Diagram), there is no technical reason why all traffic could not be transmitted via a single fiber facility. Riolo NGDLC Dec. ¶¶ 30 n.13, 33.

¹⁹⁴ Verizon & Nortel Networks, *Verizon Introduces Voice Transmission over Packet Switching Provided by Nortel Networks*, News Release, July 2, 2002 (available at <http://newscenter.verizon.com/>); *see also* AT&T at 15, 60-61, Huels Dec. ¶¶ 64-72.

SBC's claim (at 48-49) that any advanced electronics attached to a facility that enables the transmission of packets should be excluded from unbundling obligations because such functions constitute "packet switching" is simply wrong. As AT&T explained in its initial comments, summarizing what it has repeatedly shown over the past two years:

there is absolutely no basis for any assertion that any DLC system (including NGDLC) performs any switching functionality. DLC systems convert analog signals into digital signals, perform concentration functions, multiplex multiple signals onto a single facility and may perform protocol conversion and buffering functions for purposes of forwarding telecommunications signals through a carrier's network, based on the network architecture it has deployed. Whether a particular DLC architecture is designed to limit loop transmissions to 64 kbps time slots or is designed to unlock the full transmission capacity of the associated facility, the functionality of that facility is *exactly the same*. The only significant differences are related to the efficiencies that can be achieved for the transmission medium that is used. AT&T at 181 (footnotes omitted).

The facts also squarely refute SBC's claim (at 49-50) that a remotely placed DSLAM deployed in NGDLC architecture performs switching functionality. A remotely deployed DSLAM manages packets and multiplexes traffic by encoding/decoding, multiplexing/demultiplexing, and concentrating transmission being placed upon and taken from a shared feeder facility. AT&T at 182-83. These are classic *transmission* functionalities. *See, e.g.,* Riolo NGDLC Dec. ¶¶ 42-64. In fact, the NGDLC equipment at the remote terminal, particularly the DSLAM, simply does not -- *and cannot* -- perform any switching functions, *i.e.,* the flexible interconnection of facilities to create an end-to-end transmission path. All that equipment does is to transmit signals *from a single place* (a customer premise) *to a single other place* (the ILEC central office) on a *single* facility. There is simply no switching involved. The switching functionality is performed in the service provider's switching fabric, not in the loop connecting a customer to the network. Indeed, that is why any carrier seeking to provide DSL-based services cannot do so without *also* providing its own switching functionality. The loop simply provides raw bandwidth -- and it is physically incapable of doing any more. AT&T at

182-84. Accordingly, there is absolutely no technical basis to support a finding that DSLAMs in remote terminals “switch” anything. Rather, they are clearly part of the “attached electronics” that are included in the existing definition of the local loop element.

SBC also incorrectly implies that the OCD provides packet switching functionality. SBC at 46-47. Despite SBC’s unreasonably convoluted logic and technically incorrect assertion, there is a common sense answer that shows the folly of its position. All “local loops,” by definition, have *two* ends, one at the customer’s premise and the other at the ILEC’s central office. Just as the main distribution frame (“MDF”) marks the network-side endpoint of an “ordinary” loop, the OCD performs the identical function for an NGDLC loop. And just as the MDF is the first place in the ILEC network that a CLEC can now obtain access to all of its customers’ signals, including high frequency signals, on an “ordinary” all-copper loop, the OCD is the very first place in the ILEC central office that a CLEC can interconnect to obtain access to its customers’ high frequency signals on an NGDLC loop. AT&T at 189; Covad at 65; *see also id.*, Joint Dec. ¶ 35. This common sense description reveals SBC’s “magical disappearing loop” argument for what it is: linguistic nonsense that is inconsistent with SBC’s own earlier descriptions of the OCD. *See* Part VII.A. It also reveals that OCDs and MDFs – as well as COTs, digital cross-connection frames, fiber distribution frames, and similar devices – are technically feasible points for access to unbundled loops.

All of this, of course, also has a technical basis as well. As AT&T has clearly explained, the OCD is a necessary component of the loop in an NGDLC loop configuration, because the ILEC DSLAM functionality in the remote terminal manages the packets and commingles each individual customer’s communications with other customer communications over a common feeder facility to the central office. AT&T at 187-89. Because the packets enter the central

office in a commingled form, there must be a means to extract and deliver the packets to the appropriate destination carrier (*i.e.*, the customer's selected DSL service provider). For high-frequency (DSL) signals, this function is performed by the OCD located in the ILEC's central office, which provides the demultiplexing and cross-connection functions that are needed to put all the packets destined for the same carrier – including the ILEC – on the appropriate facility.¹⁹⁵ In fact, as AT&T has shown, the statistical demultiplexing function of the OCD is merely a more efficient application of the same functionality as the time division demultiplexing done by the COT. AT&T at 187-88; AT&T *Line Sharing Recon. Order* Comments at 13-14; AT&T *Line Sharing Recon. Order* Reply Comments at 9-10. SBC *concedes* (see SBC at 45, "Loop 2" Diagram) that such multiplexing is part of the overall loop element when NGDLC facilities are deployed. This clearly demonstrates that the only difference in the transmission of low and high frequency signals in the NGDLC architecture is the type of multiplexing applied to the low and high frequency signals and that there are *no* factual or logical reasons to treat the OCD differently from the COT.

In a related argument, SBC asserts that the Commission should not require ILECs to provide unbundled access to unified loops because the exclusion of certain NGDLC features and facilities from the definition of the loop (RT-based DSLAM functionality, fiber feeder, and other attached electronics) is part and parcel of the Commission's decision not to unbundle packet switching in the first place. SBC at 46-49. This is nonsense and a complete distortion of the Commission's *UNE Remand Order*. The primary discussion of packet switching in the *UNE*

¹⁹⁵ For low frequency (voice) signals, a Central Office Terminal ("COT") provides a parallel demultiplexing/multiplexing and cross-connection function, so that the voice traffic can be directed to circuit switches that, in turn, route the communications to diverse end points. AT&T at 187-88.

Remand Order occurred in the context of *stand-alone, central office-based* DSLAMs and packet switches that were then being deployed by Covad, Rhythms, Northpoint and many other (then-existing) competitors, and connected to all-copper loops. See *UNE Remand Order* ¶ 307. Although the Commission found that the lack of access to *packet switching in its entirety* would in fact “impair” requesting carriers from competing for residential and small business customers (the very target for ADSL-based services), the Commission nonetheless refrained from establishing a *generalized* requirement for unbundling of packet switching. It did so because this result was advocated by two leading (and now defunct) “DLECs,” Northpoint and Rhythms,¹⁹⁶ and because of its belief that the advanced services marketplace was nascent, that CLECs and cable companies were leading the ILECs in deploying advanced services, and (in the context then under consideration) that ILECs did not possess significant economies of scale compared to requesting carriers with respect to the deployment of *packet switches themselves*. See *id.* ¶¶ 306-308.¹⁹⁷ This was supported, in part, by its assumption that CLECs would be able to collocate DSLAMs and packet switches in the ILECs’ central offices, a decision now affirmed by the D.C. Circuit’s *Verizon Collocation* decision.

Moreover, any Commission assumption (in 1999) that a CLEC could simply collocate a DSLAM “in” a RT and access all of the features, functions, and capabilities of the loop by means of that collocated DSLAM has been shown to be either flatly wrong (because there is no room in the vast majority of RTs) or utterly impractical and uneconomic. See, e.g., WorldCom at 109-11, 115; see also New York at 7; AT&T at 191-98; ALTS at 83 n.262; Covad at 55-56; Sprint at 33-

¹⁹⁶ See *UNE Remand Order* ¶ 308 n.608. By contrast, Covad does not support the ILECs’ efforts to evade their unbundling obligations for unified loops.

¹⁹⁷ The order also determined that packet switching *in its entirety* must be unbundled in certain circumstances. *UNE Remand Order* ¶ 313.

34, 44. As described above, vanguard states such as Illinois and Texas have examined the extensive record evidence associated with the unified loop issue and recognized the CLECs' significant impairment resulting from the ILECs' refusal to provide unbundled access to unified loops. In all events, there is no support for extending the exemption for stand-alone packet switching into a license that precludes CLEC who have *actually deployed* such switches in a central office from using them because they cannot get access to the full features, functions, and capabilities of the loop connection between their customers' premises and the ILECs' central offices.

Critically, AT&T is *not* here seeking access to the ILECs' entire packet switching architecture. Rather, it only seeks assurance that it can use its *own* packet switches to provide services by assuring that it can access its customers' telecommunications signals, regardless of the manner in which the ILEC chooses to transmit those signals between the customer's premises and the ILEC central office. Access to unified loops is crucial to preserve CLECs' incentives to build their own networks to provide both voice and data services. AT&T, Huels Dec. at 6-7. Indeed, AT&T has shown that the potential ability to provide a bundle of *both* voice and data services is the primary basis upon which it foresees the possibility of providing circuit-switched facilities-based service to residential customers. AT&T, Huels Dec. at 6-7.

SBC's own prior actions also refute any argument that it is not technically feasible for CLECs and ILECs to "share" use of the fiber feeder between a remote terminal and a central office. SBC asserts that the fiber that connects "packet switching" is integrated into its "packet-switched network" and cannot be separated out and made available to other carriers on an unbundled basis. SBC at 50 ("the line card and supporting hardware and software that provide DSLAM functionality in the remote terminal cannot be severed from the OCD/ATM switch").

As a threshold matter, SBC's argument rests on the faulty premise that transmission facilities between a customer's premises and the central office can – or should – be balkanized into “loop” and “not loop” categories based on arbitrary and impermissible distinctions between two types of multiplexing, *i.e.*, statistical and time division multiplexing. But notwithstanding the legal errors associated with SBC's position described above, it is neither practical nor feasible to fashion a separate so-called “packet switching network” approach to unbundling to portions of a next generation architecture because there is in fact only *one integrated network*. See, *e.g.*, AT&T at 166-67, 176; ALTS at 85-86; Sprint at 18-19; Covad at 53-55, 60. As AT&T and others have explained in detail, the deployment of NGDLC technology is simply part of a natural progression in loop plant technology that pre-dated the Act. AT&T at 191; see also Sprint at 19-20; WorldCom, Stumbaugh/Reilly Dec. ¶¶ 7-18. Indeed, several State commissions have already rejected ILEC arguments that NGDLC upgrades constitute an “overlay” network. See, *e.g.*, Sprint at 19 n.21 (citing state commission decisions in Wisconsin and Illinois). Indeed, as noted above, there is very little infrastructure that needs to be added into an ILECs' network, particularly when the ILEC has already deployed a fiber-fed, DLC-equipped loop infrastructure to improve the efficiency of its voice service offering.

Finally, SBC asserts that the Commission's rules regarding the exceptions to the “packet switching” exemption should be eliminated because the mere existence of this rule has led several State commissions to unbundle “RT-packet switching” on a widespread basis. SBC at 54-55. As a result, SBC asserts that it has been harmed by the lack of regulatory certainty regarding NGDLC loops. *Id.* at 54-55, 60-65. This assertion is incredible. As AT&T has repeatedly explained to the Commission over the past two years, the *ILECs* have exploited the Commission's lack of clear rules regarding unified loop unbundling to chill competitive entry for

both voice and advanced telecommunications services. *See, e.g., AT&T Fifth NPRM Reply Comments at 70-74; AT&T Line Sharing Recon. Order Comments at 45; AT&T Line Sharing Recon. Order Reply Comments at 20, 23-25.* Indeed, the lack of certainty regarding CLEC access to NGDLC loops has forced CLECs to litigate the issue across the country. And in the interim, the ILECs have taken advantage of this uncertainty to become the dominant providers of DSL-based services, amassing a 94% share of DSL-based services in the residential market,¹⁹⁸ and using that dominance to block CLECs' access to narrowband services for their DSL customers. *See supra* Part VII.B.2.d.

State activity in this area underscores the need for a definitive Commission ruling on unified loops. Although a few States have stepped up to fill the void, many more have been reluctant to fill the regulatory gap resulting from the Commission's failure to resolve an issue that "merit[ed] prompt and thorough consideration" over two years ago. *Texas 271 Order* ¶ 328. Moreover, even the pro-competitive Illinois decision cited above has not fostered competition for voice and data competition over NGDLC equipped, fiber-fed loops for one simple reason: although the Illinois Commerce Commission first ordered SBC to unbundle Project Pronto in August of 2000,¹⁹⁹ SBC has steadfastly refused to provide AT&T and other CLECs with unbundled loops over Project Pronto facilities. And not surprisingly, SBC immediately

¹⁹⁸ *See TeleChoice DSL Summary.*

¹⁹⁹ Arbitration Decision, *Covad Communications Company and Rhythms Links, Inc. Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company, d/b/a Ameritech Illinois, and for an Expedited Arbitrated Award on Certain Core Issues*, Consolidated Docket Nos. 00-0312, 00-0313 (Ill. Commerce Comm'n Aug. 17, 2000).

petitioned for reconsideration of the Illinois decision.²⁰⁰ Moreover, SBC has immediately seized upon the uncertainty generated by the recent *USTA* decision in an effort to derail all state efforts to move forward on this key competitive issue.²⁰¹

Accordingly, the Commission should expeditiously conclude that CLECs are impaired without unbundled access to the unified loop element in all circumstances, and adopt rules in accordance with AT&T's recommendations. This is the only approach that will fulfill the provisions and policies of the 1996 Act as well as the directives of the Commission's various local competition orders. It is also the approach that best ensures CLECs will have incentives to invest in packet switching for mass market customers so that they can receive the benefits of robust competition in advanced telecommunications services as well as combinations of voice and data services.

VIII. CLECS WOULD BE SEVERELY IMPAIRED IN THEIR ABILITY TO OFFER SERVICE WITHOUT UNBUNDLED DEDICATED TRANSPORT, AND THE COMMISSION SHOULD IMMEDIATELY ELIMINATE ALL RESTRICTIONS ON THE USE OF LOOP-TRANSPORT COMBINATIONS.

The Commission should continue to require ILECs to make dedicated transport available on an unbundled basis. The incumbents' ubiquitous transport networks are characterized by

²⁰⁰ Application for Rehearing of Ameritech Illinois, *Covad Communications Company and Rhythms Links, Inc. Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company, d/b/a Ameritech Illinois, and for an Expedited Arbitrated Award on Certain Core Issues*, Consolidated Docket Nos. 00-0312, 00-0313 (Ill. Commerce Comm'n Sept. 18, 2000).

²⁰¹ See, e.g., SBC's Brief in Response to Order No. 31, Docket No. 22469, at 4 (Tex. P.U.C. filed June 24, 2002) ("the most prudent course for the [Texas] Commission is to abate this proceeding pending further action [in the UNE Triennial Review proceeding] by the FCC"); SBC's Response to Order Directing Filing, Case No. TO-2001-440, at 6 (Mo. P.S.C. filed June 24, 2002) ("the *USTA* decision makes clear that the FCC cannot legally require any unbundling of the advanced-services equipment th[at] is part of the Project Pronto architecture.").

enormous economies of scale and scope that are attributable to natural monopoly characteristics of the incumbents' networks, in addition to other substantial barriers to entry. *See USTA*, 290 F.3d at 426-27. CLECs cannot hope to duplicate these facilities except in unusual circumstances where a CLEC can aggregate enough traffic to achieve scale economies approaching those of the incumbent.

Since the *UNE Remand Order*, these conclusions have been dramatically confirmed by actual market experience. A number of CLECs entered the market and deployed their own transport facilities, and the evidence is increasingly clear that, despite construction targeting the most attractive markets, a wholesale market for dedicated transport has failed to develop and those carriers deploying alternatives to ILEC dedicated transport find their networks radically underutilized. As a result, many CLECs holding themselves out as offering dark fiber, transport services or transport capacity are either in bankruptcy or on the brink of it. Indeed, contrary to the ILECs' claims, there is essentially no viable market for competitive transport today, and there are only limited instances when individual carriers have successfully deployed dedicated transport for their own use. Furthermore, in most instances CLECs, have insufficient market penetration to garner more than a few DS-1 equivalents between points in the ILEC network where dedicated transport would ordinarily be required. But (setting aside impairments other than scale economies), construction of transport facilities is justified only when a substantial number of DS3s are required. Therefore, in the absence of access to competitively priced transport (as opposed to above-cost special access) CLECs must have continuing unrestricted access to unbundled transport.

The CLECs' limited success in self-deploying transport for their own use, together with widespread bankruptcies of firms seeking to provide wholesale transport capacity confirm that

the incumbents' scale and scope economies give them far lower per-unit costs compared to that attainable by the CLECs across almost the entire range of demand, which the D.C. Circuit recognized as the classic case of impairment. *See USTA*, 290 F.3d at 427. Moreover, the fact that some CLECs have deployed some transport is not itself dispositive, because market experience since the *UNE Remand Order* shows that many non-ILEC firms seeking to provide alternative transport capabilities could not do so profitably. Until such transport can be deployed profitably, CLECs have no practical alternative to unbundled ILEC transport. This is particularly true for the many transport connections of relatively low capacity (*i.e.*, less than that justifying an optical facility) necessary to connect the CLEC network to the CLECs' collocations – the only place where retail customer loops are generally accessible. The complexity of transport deployment is confirmed by the fact that attempts to establish a competitive transport market to date have largely ended in bankruptcy.

The ILECs' assertion that there is widespread deployment of competitive transport does not even stand up to the most cursory review. Indeed, the ILECs' showings are not even responsive to the D.C. Circuit's remand, because, as shown below, the mere fact of competitive deployment does not demonstrate that such deployment is either economic or sustainable. Indeed, the ILEC Report's presentation regarding dedicated transport alternatives is notable primarily for the widespread inclusion of firms that are either bankrupt or in jeopardy of bankruptcy. Moreover, the ILECs' facts simply confirm that current wholesale transport supply is a transient phenomenon, not market-based proof that alternative supply of transport is firmly established and broadly available throughout the relevant markets, or that competitive supply is available (and can be assured long term) at efficient cost-based rates.

Finally, if there is to be any significant prospect that some individual carriers could self-deploy transport, the Commission must promptly remove all restrictions on the use of loop-transport combinations and the prohibition on co-mingling of access and "UNE" traffic. Failure to take these steps will only constrict the CLECs' ability to reach customers economically with facilities-based alternative services and provide regulatory protection for the incumbents' bloated special access pricing. The incumbents' special access rates remain twice as high as their costs, and since receiving pricing flexibility, some incumbent's have raised their rates, particularly for lower capacity transport for which alternatives are non-existent. Indeed, the major incumbents reported average rates of return for special access in 2001 of 38%, and notably, those returns are calculated against their embedded costs. Such returns would be impossible if competitively viable alternatives truly existed. Therefore, the ILECs' returns simply provide stark, market-based proof that ILECs' assertions regarding competitive transport, including alternatives to special access, are simply a fantasy.

The availability of loop-transport combinations is critically important to further CLECs' deployment of facilities, because the only way that CLECs can economically justify the deployment of transport at all is for them to first to aggregate traffic from numerous LSOs to build the minimum traffic volume to justify such construction. Even then, it is highly unlikely that such construction would result in CLEC economies of scale that even come close to those of the incumbent, much less be comparable to the radically lower incremental cost that the incumbent would incur when adding equivalent capacity.²⁰²

²⁰² As explained below, when a new entrant is considering constructing facilities, it must gauge its costs against the fact that the incumbent can drop its prices to its short run incremental costs, which are below TELRIC. These incremental costs will provide the ultimate yardstick for competitive pricing in the transport market and will ultimately determine whether alternative transport providers can survive.

A. Deployment Of Transmission Facilities Is Uneconomic In The Vast Majority Of Cases.

As with loops, dedicated transport is characterized by enormous economies of scale and scope, as well as substantial entry barriers. The fact that the ILECs deployed their networks as regulated monopolies provides the incumbents – and only the incumbents – with scale economies and network reach that no other market entrant could hope to replicate. Not only do the ILECs have fiber interconnecting virtually all of their LSOs (either directly or indirectly), they also generally deployed dark fiber capacity at the time of the initial facility construction, so they can dramatically increase capacity on most routes simply by adding terminating electronics at relatively minimal incremental costs (and certainly at a trivial cost compared to new construction). Thus, even on specific, high-demand point-to-point routes, a CLEC cannot hope to achieve the per-unit cost of the ILEC's transport. And the lower the aggregated bandwidth a CLEC requires between the two end points, the more severe the CLEC's unit cost disadvantage compared to the incumbent. Indeed, the fact that the incumbents were the first to deploy a ubiquitous transport network gives them enormous cost advantages over any subsequent entrant, and the ILECs had their fiber-based transport networks in place long before passage of the Act.²⁰³

The Commission's own ARMIS data show that the ILECs have deployed a ubiquitous transport network of 24 million interoffice carrier links (of which 23.3 million are fiber) that connect over 14,000 local switches, and which represents a massive investment funded by

²⁰³ The ILECs introduced optical transmission technologies into interoffice plant in the 1970's to enhance transmission functionality, to improve the quality and reliability of the network, and to reduce network costs. By the time of the enactment of the 1996 Act, the ILECs' interoffice transport facilities were virtually all fiber; 10.3 million of the 11.2 million carrier links at the end of 1996 were fiber. *Universal Service Monitoring Report*, Table 10.2.

captive ratepayers. *Universal Service Monitoring Report*, Tables 10.1 & 10.2 (October 2001). And these data do not adequately represent the incumbents' advantage. As the Commission has correctly acknowledged (*id.* at 10-4), when a carrier deploys a fiber facility, it is economically prudent to deploy substantial numbers of unlit strands. Thus, for each carrier link, the incumbent likely has tens or hundreds of strands of fiber, each of which is capable of carrying more than 32,000 simultaneous local calls depending on the nature of the terminating electronics.²⁰⁴ As a result, any CLEC attempting to deploy its own transport facilities faces severe cost disparities relative to the incumbent that are directly "linked" to the natural monopoly characteristics of the incumbent's network. *See USTA*, 290 F.3d at 426-27. Indeed, no CLEC could hope to replicate these facilities except in very limited and unusual circumstances. Given the severe impairments CLECs face and the immense untapped capacity of the incumbents' existing transport networks, no public policy objective is served by encouraging CLEC investment that would most likely be uneconomic and unsustainable.²⁰⁵

The ILECs' virtually insuperable economic advantages are discussed in detail below. First, the ILECs have designed their interoffice transport network facilities to achieve enormous economies of scale and scope, much as they have done for loops (*see supra* Part VI). Second, Dr. Clarke has quantified the ILECs' massive cost advantages using both the HAI model and the Commission's Synthesis Model. Moreover, on any given transport route, an individual CLEC cannot hope to match the ILEC's per-unit transport costs unless that CLEC happens to have

²⁰⁴ This assumes that the ILEC is operating the transport facilities at the OC-48 level. Opto-electronics exist that would support at least an eightfold increase in that capacity.

²⁰⁵ To fully minimize the economic disincentives in the current system, continuation of the unbundling requirement should be coupled with the completion of access reform and the elimination of all existing use restrictions.

enormous demand (*i.e.*, a substantial number of DS3s) along that route. Third, the fact that ILECs have maintained price umbrellas does not decrease the CLECs' impairment. Indeed, if anything, such price umbrellas have had harmful effects on competition, by masking the ILECs' true per-unit costs and by inducing competitors to build excessive transport facilities that, in the end, could not be economically justified. Finally, even in the small set of cases in which CLEC deployment could be economically justified, CLECs often face other barriers to entry, including municipal restrictions on obtaining the necessary rights of way and the high costs of collocation.

Plant Design. The ILECs' outside plant design for interoffice transport is driven by many of the same considerations that drive loop design. Because the ILECs were historically regulated monopolies, the incumbents designed and deployed their transport networks to achieve economies of scale and scope that cannot be replicated by other parties seeking to compete with them. As with loops, most of the cost of deploying interoffice transport is in the supporting infrastructure, including the structures, placement and rights of way. Because of these exceedingly high infrastructure costs, the cost of laying a fiber conductor having one strand is not appreciably less than the cost of laying a fiber conductor with dozens of strands. In fact, because of the high costs of construction, the ILECs typically deploy the largest sized conductor that is practically usable, in order to minimize the likelihood of ever having to build a new facility route between the same two points. *See* Leshar Reply Dec. ¶ 9; Fea-Giovannucci Reply Dec. ¶ 9. Because the construction costs are so substantial regardless of the size of the conductor deployed, transport engineers seek to maximize the traffic carried over each route in order to spread the very high fixed costs of deploying these facilities across a large number of customers. Leshar Reply Dec. ¶¶ 7, 9.

The incumbents possessed three unique advantages in deploying their transport network because of their status as protected monopolies: (1) they served virtually the entirety of the industry telecommunications demand either through retail offerings or wholesale switched and special access offerings; (2) they were virtually guaranteed cost recovery – for not only the capacity required for service but also unlit capacity – at a predictable minimum rate of return; and (3) they routinely received preferential treatment with respect to rights of way and franchise fees. As a result, by the time the 1996 Act was passed, the ILECs' cumulative advantages, which accrued over decades, placed them in the position of having a fiber transport network of virtually universal reach, together with almost inexhaustible capacity that was largely paid for and operating at a unit cost that would be largely unmatched. Fea-Givannucci Reply Dec. ¶¶ 6-10.

The ILECs' cost advantages with respect to interoffice transport are particularly substantial because the ILECs use fiber optic conductors almost exclusively throughout their transport networks. Transport facilities carry very large amounts of traffic. As a result, economic and engineering principles dictated conversion of transport from copper to fiber early on. Consequently, on almost any route where a CLEC might consider deploying its own transport facility, the ILEC has *already deployed* fiber transmission facilities (under preferential conditions), and is *already operating* those facilities to serve traffic volumes that are orders of magnitude larger than those a CLEC could likely serve. See Leshar Reply Dec. ¶ 9; Fea-Giovannucci Reply Dec. ¶¶ 8, 10. Indeed, the ILECs' insurmountable cost advantage is confirmed by the fact that in many instances CLECs have found it more economical to purchase special access (at supracompetitive market prices) rather than incur the financial risk of building a facility whose capacity cannot be reasonably utilized (due, inter alia, to use and commingling

restrictions that inhibit or preclude hubbing) and that imposes a unit cost many multiples of the ILEC's. *See* Leshar Reply Dec. ¶ 11.

Moreover, incumbents also have an additional, enormous cost advantage because of their low marginal cost of adding capacity on existing facilities. A CLEC that is considering construction of new facilities along an existing ILEC fiber route must account for the fact that the ILEC can usually create the same capacity for itself by incurring only the relatively small *incremental* cost of adding electronics to its existing outside plant. *Fea-Giovannucci Reply Dec. ¶ 8, 10; Leshar Reply Dec. ¶ 9.*

The comments confirm these conclusions. For example, WorldCom confirms that "[a] CLEC's ability to self-supply transport is, as a general matter, limited by the high fixed and sunk costs associated with the construction of transport facilities." *See* WorldCom at 77 & Fleming Dec. ¶¶ 11-14. CLECs, with their small customer bases, rarely have the traffic to justify such deployment costs. *See, e.g.,* Eschelon at 12 ("[w]ith respect to interoffice transport, Eschelon's customer base simply does not generate the volume of traffic that would justify construction and ownership of such facilities"); WorldCom at 77 ("[d]espite WorldCom's extensive local networks, WorldCom can self-provide transport to only a small fraction" of ILEC wire centers).

Economies of Scale. In AT&T's initial comments, Dr. Clarke demonstrated in detail that transport is characterized by economies of scale and scope that are inherent in the ILECs' networks and no other party can replicate or even approximate. As Dr. Clarke explained (¶ 13):

[A]n interoffice transport system linking two end-office switch locations requires the installation of a fiber cable plus lightwave electronics at each end of the fiber cable. The fiber cable may be considered a fixed cost that leads directly to economies of scale. If this transport route is expected to experience only moderate traffic, a basic single-mode fiber may be used. If the transport route is expected to carry very heavy volumes of traffic, multi-mode fiber (which is about twice as expensive as single-mode) would be installed. But because the multi-mode fiber can accommodate transmission capacities that are more than double

those accommodated by the single-mode fiber, still further economies are enjoyed by the higher capacity installation. The electronic equipment at each end of the fiber cable that determines its actual transmission throughput can be considered a variable cost. For low traffic volumes, OC-3 add-drop multiplexers may suffice. But as traffic volumes increase, OC-12 add-drop multiplexers may be substituted at four times the capacity, but much less than four times the cost. Similarly, OC-48 or OC-192 add-drop multiplexers may be installed that each provide four times the capacity of the next lower system, but at much less than a fourfold cost increase. At even higher traffic demands, dense wave division multiplexing ("DWDM") lightwave equipment may be installed – assuming the connecting fiber cable is the multi-mode variety.

Dr. Clarke also explained that transport exhibits significant economies of scope. "[T]he fiber cable used to provide interoffice transport between two end-office switch locations must be placed in or on some outside plant structure – such as on a pole, in a trench or in a conduit. Because such structures can support both loop cables and interoffice cables at minimal extra cost, a carrier that provisions this interoffice transport system in concert with loop networks emanating from the two end-office locations will have a cost advantage over a carrier that provides either only interoffice transport or only loops." *Id.* ¶ 14.

Dr. Clarke used the HAI 5.1 Model to model a new entrant's costs against those of Southwestern Bell-Missouri ("SWB-MO"). *See id.* ¶ 29 & n.6. Dr. Clarke's model assumes that the CLEC is maximizing its own economies of scale by building out an entire network. Even assuming optimistically that a new entrant could secure a 30 percent market share in each cluster served by SWB-MO, the new entrant's per-line transport investments would exceed the incumbent's by 199 percent. *See id.* ¶ 30.²⁰⁶ Moreover, if (counterfactually) the CLEC could target and gain a 100 percent market share in 30 percent of the incumbent's clusters, "its transport investments and monthly costs rise to 237% and 214% more than those of the

²⁰⁶ In Dr. Clarke's model, interoffice transport is defined as the collection of UNEs associated with signaling, tandem switching, transport and transmission facilities. *See id.* ¶ 30 n.6.

incumbent” (emphasis added). As Dr. Clarke explains (¶ 32), the reason for this rise in the transport cost disadvantage is the very “economies of scope in the provision of loops and interoffice transport,” described above. *Id.* As Dr. Clarke describes, “[o]nly when the interoffice route moves beyond the wire center’s boundaries does it need its own structure.” Thus, if a CLEC is targeting only 30 percent of the wire center’s clusters and builds less loop structure, there is less opportunity for the CLEC’s interoffice facilities to share structure use with its feeder facilities, so that interoffice transport must bear a greater level of structure costs. *Id.*²⁰⁷

Dr. Clarke also used the Commission’s Synthesis Model to model a new entrant’s costs against the incumbent, and obtained similar results. Assuming that the new entrant gains a 30 percent market share of all customer locations, the CLEC’s interoffice transport investment and monthly costs are 166% and 200% higher than the incumbent’s. *Id.* ¶ 36. Similarly, assuming that the CLEC targets 30 percent of the clusters and achieves a 100 percent market share in those clusters, the CLEC’s interoffice transport cost disadvantage again increases, to 182 percent (investment cost) and 265 percent (monthly costs). *Id.* ¶ 37.

These cost results demonstrate that interoffice transport exhibits severe economies of both scale *and* scope. As Dr. Clarke concludes (¶ 38), “[i]f a CLEC is able to reduce its loop cost disadvantages by targeting its loop investments to serve only contiguous customer groups, this success makes it less possible for the CLEC also to enjoy low costs of interoffice transport provision. Thus, the only way the CLEC can evade significant cost disadvantages in at least one important UNE is to achieve a high market share across *all* UNEs and customer locations” (emphasis added). In other words, transmission facilities exhibit substantial economies of scale

²⁰⁷ It should be noted that Dr. Clarke’s analysis is limited to quantifying differences in economies of scale and scope, and does not address other real-world barriers to entry, such as extra costs associated with obtaining rights of way. *See id.* ¶ 5 & n.1.

and scope “over the entire extent of the market” – and thus are classic examples of network elements that should be available on an unbundled basis. *See USTA*, 290 F.3d at 427 (quoting 2 Kahn, *ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 119).

Because of these severe economies of scale and scope, a competitive LEC must have a *substantial number* of DS-3s of anticipated traffic before it can even consider deploying transport facilities between two points in competition with the ILEC. AT&T at 135. CLECs have sufficient traffic to do so, however, in only a very small number of LSOs. As AT&T has shown, AT&T currently has special access circuits to approximately 11,500 of the over 14,000 ILEC LSOs. For 70 percent of these LSOs, AT&T has insufficient traffic to fill a *single* DS-3 facility to reasonable levels of utilization to carry its substantial long distance traffic.²⁰⁸ Fea-Taggart Use Restriction Dec. ¶ 7; Fea-Giovannucci Reply Dec. ¶ 25. Most CLECs, of course, do not have the long distance traffic that AT&T does and would therefore have even less ability to self-deploy fiber to any given LSO. *See also* WorldCom at 77 (“[d]espite WorldCom’s extensive local networks, WorldCom can self-provide transport to only a small fraction” of the ILEC wire centers); *Verizon*, 122 S. Ct. at 1672 n.27 (noting smaller entrants face even greater hurdles than larger CLECs).

Given these facts, the only way that a CLEC can hope to gain economies of scale comparable to the ILEC’s is to aggregate traffic from several LSOs (*i.e.*, to “home” DS-1/DS-3 level transport from several LSOs) to central locations (hubs) where higher capacity facilities can be justified between such points of aggregation. *See* Leshner-Frontera Dec. ¶ 22; Leshner Reply

²⁰⁸ One DS-3 can carry 672 simultaneous voice conversations. Accordingly, assuming a 4:1 concentration, a CLEC could serve more than 2500 POTS lines with a single DS-3. The average RBOC local switch, however, terminates between 15,000 and 20,000 lines. Therefore, even if a CLEC could win a 25 percent market share in that office, it could fill only 2 DS-3s (3750 to 5000 lines).

Dec. ¶¶ 16-17. As AT&T has shown, even though it can combine both long distance and local traffic, AT&T must typically hub traffic from multiple LSOs to reach the level of traffic necessary to justify deployment of fiber transport. *See* Leshner-Frontera Dec. ¶ 22; Leshner Reply Dec. ¶¶ 16-17. Thus assuming away all other competitive disadvantages, a facilities-based CLEC can economically deploy fiber only to those few LSOs where it has substantial demand or, more typically, to hubs, which themselves are points at which traffic from several low demand LSOs have been aggregated by using ILEC transport facilities. Leshner Reply Dec. ¶¶ 17-19.

As explained in more detail below, that is why the availability of EELs is so critically important. Using such combinations to aggregate traffic from several LSOs to a CLEC's hub is often the *only* way a CLEC can attain acceptable levels of utilization of its existing transport facilities or to justify building additional transport facilities to additional hubs. Thus, the Commission's current use and commingling restrictions on loop-transport combinations are directly *impeding* the very facilities-based entry the Commission seeks to encourage. AT&T at 136-40; *see also* WorldCom at 80 ("competitors require EELs to reach end user customers served out of distant end offices where it is not economically feasible to collocate").

Price Umbrellas/Sunk Costs. The fact that the ILECs' retail prices often constitute a "price umbrella" does not decrease the CLECs' huge impairment, because it does not affect the economies of scale and scope that give the ILECs' insuperable cost advantages. Indeed, the principal effect of the ILECs' price umbrellas is to *mask* the true per-unit cost of the ILECs' transmission facilities, which frequently makes it impossible for CLECs to determine accurately where facilities construction would be economic. *See* AT&T at 129-31; Leshner Reply Dec. ¶ 27. As a result, the ILECs' price umbrellas initially induced a wave of uneconomic deployment, fueled by the easy availability of funding from the capital markets. These investments have now

been exposed as largely uneconomic, and many of these companies – including those cited by the ILECs – are now in bankruptcy. Because price umbrellas do not reflect the true underlying economic realities at work, and because the ILECs under the Commission's pricing flexibility rules can collapse their price umbrellas at any time, the existence of price umbrellas provides no basis for CLECs to invest in transport facilities.

In that regard, it is critical to understand that the D.C. Circuit did *not* hold in *USTA* that the existence of a price umbrella is an indication that facilities deployment is either economical or viable. To the contrary, the court held merely that the Commission, by focusing on too broad a set of cost disparities, had not adequately explained the significance of the fact that there has been some investment in transport facilities in markets where retail prices are above costs (and thus where retail rates would not by themselves foreclose competitive entry). *See USTA*, 290 F.3d at 13-14 (although the Commission argued that the data on facilities investment did not accurately reflect the extent to which alternatives were available, "we have no way of assessing the real meaning of that conclusion"). The court made clear that on remand the Commission's task is to focus on cost disparities traceable to the incumbents' natural monopoly characteristics to determine whether CLECs would actually be impaired without access to the unbundled element. And as explained above, the incumbents' transport networks are characterized by enormous economies of scale and scope that give them insuperable cost advantages, regardless of whether or not the ILECs maintain price umbrellas for their retail services.

Indeed, the ILECs' price umbrellas have in fact had a profoundly *negative* impact on the transport market, by creating incentives for uneconomic investment. Price umbrellas send erroneous and distortive signals to all market participants, and create incentives for CLECs to engage in *inefficient* (and thus "wasteful") investment in transmission facilities. Where the

incumbent enjoys enormous economies of scale and scope, and its true per-unit costs are lower than the CLECs', it would (in the D.C. Circuit's words) "make no economic sense" for a CLEC to construct transmission facilities (*see USTA*, 290 F.3d at 426), even if the CLEC's per-unit costs are lower than the cost implied by the incumbent's inflated retail rates. In that situation, the CLEC does not have a truly viable or sustainable investment.²⁰⁹

Moreover, the Commission should not assume that price umbrellas are static, because the Commission's pricing flexibility rules give ILECs an almost unfettered ability to collapse the price umbrella at any time. *See Leshner Reply Dec.* ¶ 28. As Dr. Clarke has explained, the ILECs' costs are actually below TELRIC, because "although the own-cost relevant to a new carrier considering entry is TELRIC, the cost level that it must compete against is the incumbent's short-run marginal cost ("SRMC") – which, due to the sunk nature of many of the incumbents' network investments, likely falls substantially below its TELRIC." *Clarke Dec.* ¶ 7. Faced with competitive entry, ILECs can drop their prices to SRMC, and at that point, the CLEC's investment will be exposed as uneconomic and will be stranded. And as shown below, it is increasingly clear that the incumbents' price umbrellas, *inter alia*, have in fact resulted in dramatic overbuilding of CLEC transmission facilities.

For this reason, a competitive LEC that is considering whether to deploy transmission facilities cannot simply assume that ILEC will maintain its inflated rates indefinitely. Because the ILEC almost always enjoys substantial advantages over the competitive LEC in terms of per-

²⁰⁹ Indeed, the Commission effectively recognized this very point when it adopted the current use restrictions on EELs. The Commission concluded that "an immediate transition to [cost-based rates for] special access could undercut the position of many facilities-based competitive access providers" and "have potentially severe consequences." *Supplemental Order Clarification* ¶ 18. But this could only be true if these competitors' facilities investments were fundamentally uneconomic and unsustainable but for the price umbrella afforded by the ILECs' excessive access rates.

unit costs, it can reduce its rates to a point between its own unit cost and that of the competitive ILEC at any time. As a result, the ILEC can drive any CLEC from the market if the CLEC's business plan was based on charging rates equal to the ILEC's supracompetitive access prices. *See Leshner Reply Dec. ¶ 28.*

Indeed, the ILECs can (and have) employed even more subtle strategies for controlling the competitive transport market. The ILECs today typically price their higher capacity optical transport services closer to cost, because it is along such routes that CLECs are most likely to build their own facilities. A CLEC generally can justify building such transport, however, only if it can aggregate traffic from additional LSOs through the use of lower capacity transport links. Therefore, the ILEC can stamp out entry – and recoup the lost profits from the lower prices for higher capacity transport – by charging excessive prices for the lower capacity transport that CLECs need in order to aggregate enough traffic to achieve reasonable levels of utilization on their own facilities. Critically, CLECs have no way of countering this strategy because (1) there are no competitive alternatives on the lower capacity routes and (2) the Commission's use and commingling restrictions have effectively precluded any use of TELRIC-priced loop-transport UNE combinations to reach these additional LSOs. This is in fact the pattern of the ILECs' special access pricing and largely explains the substantial under-utilization of the CLECs' existing transport facilities. *See Leshner Reply Dec. ¶ 30.*

Barriers to Entry. CLECs seeking to deploy transport facilities also face numerous barriers to entry, in addition to the enormous cost disadvantages linked to the incumbent's economies of scale and scope. For example, CLECs face substantial impairment in obtaining municipal rights of way to deploy competitive transmission facilities. As Professor Willig explains, "as first movers, ILECs received rights of way from local governments for

underground cables and telephone poles and wires with only minimal transaction costs, for persons in the neighborhood or municipality otherwise would not receive *any* telecommunications services.” Willig Dec. ¶ 62. By contrast, “CLECs often incur substantial transactional costs – in some cases, discriminatory higher charges – and delays in getting rights of way, as local governments balance any negative impacts of new rights of way applications (such as in the form of disruption of traffic) with the benefits not of initial telecommunications service, but of simply additional competition.” *Id.* ¶ 63; Fea-Gioannucci Reply Dec. ¶¶ 30-37.

The comments confirm these findings. As WorldCom explains (at 33), “[s]ince the passage of the Telecommunications Act, CLECs’ ability to install their facilities has been hampered by municipal ordinances that have imposed excessive, non-cost based fees on access to rights of way and have also delayed such access through unnecessary and cumbersome application procedures and bonding requirements.” Sprint also confirms (at 22-23) that “competing carriers face delays securing ROW access and obtaining permits, as well as delays stemming from municipal ‘franchise’ conditions, construction moratoriums, preservation constraints, even endangered species issues,” all of which take months to resolve. *See also* AT&T at 142-44.

CLECs are also impaired by the costs and delays of establishing collocation. AT&T documented the high cost of collocation (*see* Leshner-Frontera Dec. ¶ 48), which is a significant impairment that ILECs do not bear. Indeed, AT&T has found that the cost of obtaining and maintaining collocations is so high that “investment in collocations in anticipation of some day having sufficient customer demand [is] not economically feasible.” Fea-Gioannucci Reply Dec. ¶ 21 & n.5. As a result, a number of AT&T’s existing collocations are not economic, and

AT&T is in the process of relinquishing some of them back to the ILEC. Fea-Giovannucci Reply Dec. ¶ 21, 44.²¹⁰

In short, interoffice dedicated transport is characterized by enormous economies of scale and scope, as well as substantial barriers to entry, that result in severe cost disparities linked to the natural monopoly characteristics of the incumbents' network. *See USTA*, 290 F.3d at 426-27. For these reasons, CLECs are "impaired" in their ability to offer service with self-deployed transport in almost all cases. *See also* WorldCom at 4 ("[i]f there is any lesson to be learned from the implosion of the competitive LECs, it is that any competitive company that wants to survive for the long term must build its network incrementally as it develops a customer base").

B. Market Experience Since The UNE Remand Order Confirms That Self-Deployed Transport Facilities Are Not Efficiently Utilized, And That Alternative Transport Is Generally Not Available.

Market experience since the *UNE Remand Order* further confirms that CLECs are severely impaired in their ability to use self-provided transport. At the time of the *UNE Remand Order*, entry into the local market was still in its early stages, and the Commission's impairment findings were based largely on speculation as to how competition would develop. In the intervening years, numerous CLECs have entered the market and attempted to provide alternative transport, and virtually all of those that attempted to provide transport on a wholesale basis (at least for very high-capacity transport) have been acquired, failed or are on the brink of

²¹⁰ *See also* Fea-Giovannucci Reply Dec. ¶ 44 (obtaining collocation is accompanied by other impairments, "including lengthy ILEC application processes, unclear space disposition or LSO space exhaustion, and significant space preparation and use charges," as well as "remote placement of collocation space (*i.e.*, within an LSO but far from the frame) that may require added copper connectivity; unreasonable power delivery and riser charges; ILEC imposition of government-mandated building code upgrades that should be covered by the ILEC (*e.g.*, asbestos removal and compliance with Americans with Disabilities Act); ILEC premium charges for 'preferred' contractors and consultants; and charges for unneeded or unnecessary services or quantities of service").

failure. These actual market experiences provide important and dramatic evidence of the severe impairment that CLECs face in any effort to provide or obtain alternative transport.

As shown below, the record evidence strongly confirms that CLECs have dramatically overbuilt alternative facilities in the last few years, and that the Commission's use and commingling restrictions have precluded CLECs from achieving reasonable and economic levels of utilization for such facilities. Second, notwithstanding billions of dollars of investment, there is essentially no viable wholesale market for competitive fiber transport today. Contrary to the ILECs' claims, CLECs have very few alternatives for competitive transport. Third, the capital markets have recognized these realities and are all but closed to new facilities investment.

The Commission's Current Regulations Unduly Inhibit Deployment Of Facilities And Have Led To Underutilization Of The Facilities That Have Been Deployed. In *USTA*, the D.C. Circuit noted that some CLECs had in fact deployed some alternative transport facilities to serve business users. See *USTA*, 290 F.3d at 422-23. Although the court acknowledged that the Commission had expressed doubt in the *UNE Remand Order* about whether such investment "accurately reflects the extent to which alternatives are actually available to competitors," the court concluded that it had "no way of assessing the real meaning of that conclusion," because the Commission had not confined its inquiry to cost disparities "linked (in some degree)" to the natural monopoly characteristics of the incumbent. See *USTA*, 290 F.3d at 423 (citation omitted). Actual market experience since the *UNE Remand Order*, however, now dramatically confirms that the Commission's doubts were correct. The great bulk of CLECs' investments proved to be uneconomic, and the facilities they have deployed are radically underutilized, largely as a result of the Commission's use restrictions on EELs and the artificial prohibition on commingling of UNEs and ILEC services.

As Professor Willig has shown, it is increasingly clear that CLECs dramatically *overinvested* in facilities over the past few years, especially given the regulatory restrictions on the use of EELs. As Professor Willig explained (§ 92), “[i]t appears that [the CLECs’ facilities] investment[s] would succeed if CLECs could obtain sufficient traffic volumes to allow their switches to achieve efficient scale and if they could connect their customers to their switches and carry traffic to them at costs close to those ILECs incur – such that the overall network costs were not materially greater than ILECs and covered by the revenues that would be generated.” In retrospect, however, “it appears clear that these CLECs . . . made far greater investments than were warranted by subsequent developments.” *Id.*

As Professor Willig concluded, “facilities-based CLECs have, almost without exception, been unable to fill the facilities that they have deployed with sufficient traffic to cover the costs of the facilities and the CLECs’ related support costs and investment.” *Id.* § 95. Similarly, AT&T demonstrated that its own interoffice transport facilities are underutilized. *See Frontera-Lesher Dec.* § 58; *see also Lesher Reply Dec.* §§ 20-23. In addition, as ASCENT notes (at 11), “[f]ull and partial facilities-based providers constitute the large majority of the bankruptcies that have plagued the competitive LEC community with increasing frequency.” Indeed, three dozen CLECs went bankrupt in 2001, and, as the commenters describe, many other major facilities-based providers such as McLeodUSA, Inc., Network Plus Corp., XO Communications, Inc., and Mpower Communications Corp. are either joining them in bankruptcy or on the brink of doing so. *See, e.g., ASCENT* at 11-12; *see also Willig Dec.* §§ 95-97 & Exh. 1 (cataloging facilities-based CLECs either in bankruptcy or in severe economic straits).

The systemic under-utilization of CLEC transport networks and the subsequent wave of CLEC bankruptcies is a direct indication that, even in the limited and targeted instances in which

CLECs have deployed transport, they have not been able to generate economies of scale or scope comparable to the incumbents. Moreover, the CLECs had no opportunity to improve their situations because of (1) the Commission's use restrictions on EELs, which prevented them from aggregating traffic from additional LSOs that could have improved the utilization of their facilities, (2) the high price of special access as an alternative means of aggregating such traffic, and (3) the lack of non-ILEC wholesale alternatives for aggregating such traffic. As a result, these CLECs could not achieve reasonable levels of utilization on their facilities and thus could not achieve unit costs that would allow them to price their services competitively with the ILEC. *See* Leshner Reply Dec. ¶ 17; Fea-Giovannucci Reply Dec. ¶ 76.

In short, these CLECs face cost disparities directly attributable to the natural monopoly characteristics of the incumbents' networks, *see USTA*, 290 F.3d at 426-28, and they face these disparities even in the densest and most concentrated markets in the country. The actual market experience therefore dramatically confirms that CLECs seeking to deploy their own transport face are materially "impaired" in their ability to offer service.

There Is No Viable Wholesale Transport Market. It is also critically important to recognize that there is essentially no viable wholesale market for competitive interoffice transport today. The ILECs' arguments rely heavily on the mere existence of companies that have deployed their own alternative transport facilities, but a close examination of the actual market experience of these very companies confirms that there is no viable wholesale market. The ILECs go so far as to claim that no one carrier needs to build a ubiquitous transport network, because competitive LECs "routinely" combine their own transport facilities with those of wholesalers, "even when that means relying on a 'patchwork' of different networks," and that such arrangements allow competitive LECs to achieve ubiquitous coverage without relying on

ILEC transport. SBC at 87-88; Verizon at 107; Qwest at 39; BellSouth at 94; ILEC Report at III-4 – III-6. These claims are sheer nonsense.

Verizon at least should have some idea that there is no viable wholesale market for competitive transport, because it has had first-hand experience with the severe impairments of CLEC transport providers. Verizon invested nearly \$2 billion in the flagship wholesale transport provider, Metromedia Fiber Networks (“MFN”). MFN repeatedly defaulted on interest payments on debt held by Verizon, however, and finally filed for bankruptcy on May 20, 2002. In the wake of MFN’s troubles, Verizon has cancelled its supplier contracts with MFN, and Verizon has written down all of its investments in MFN. As MFN’s chief executive put it, “In growing the business we, along with others in the industry, outpaced the demand, and, as a result, are overbuilt.” *See Metromedia Files for Bankruptcy*, New York Times, at C2 (May 21, 2002).²¹¹

The ILEC Report’s showing with respect to the wholesale market consists principally of three charts listing CLECs, utilities, and IXC’s that the incumbents claim are viable wholesale transport providers. *See* ILEC Report at III-12-14. As the Pfau Reply Declaration demonstrates in detail (¶¶ 35-51), however, the ILECs dramatically overstate the availability of capacity from these companies. *See* SBC at 86-87; BellSouth at 93; ILEC Report at III-8-10. A number of the companies that the ILECs rely upon, including MFN, Telergy, and Yipes, are in bankruptcy, and others like NEON, are in severe trouble. And some of the companies on the ILECs’ charts do not even hold themselves out as providers of dark fiber at all. Several of the cited companies

²¹¹ *See also Metromedia Fiber Is Under S.E.C. Scrutiny*, Bloomberg News (June 13, 2002) (the Securities and Exchange Commission is investigating MFN’s accounting practices, and MFN recently restated its results for the first three quarters of 2001, and said that it had wider losses than previously reported).

rely at least partially on capacity from other companies on the list (some of whom, like MFN, are now bankrupt), and the remaining companies have extremely limited offerings. *See* Pfau Reply Dec. ¶¶ 41-44. In addition, the utility companies the ILECs listed also have extremely limited offerings (if they offer dark fiber at all). *Id.* ¶ 45-47. And of the four IXC's listed, two are bankrupt (Williams and Global Crossing), one remains in financial trouble (Level 3), and the other does not seem to offer dark fiber at all (Qwest). *See id.* ¶ 48-50. In short, the ILEC Report has completely failed to establish that there is any effective wholesale market at all.

And the record shows that CLECs' reliance on wholesalers is very limited. For example, although Verizon (at 108) claims that Allegiance and CTC have "admitted" that they rely on alternative suppliers "for most (or even all) of their interoffice transport needs," Allegiance and CTC have directly refuted those claims in their comments. *See* Allegiance at 28 ("Allegiance leases 70 percent of its interoffice DS-3 circuits from ILECs"); Dark Fiber Commenters at 25-30 ("there is still a lack of alternative transport facilities" and CLECs use other CLECs' fiber only in "rare instances"; CTC is one of the Dark Fiber Commenters).²¹²

Similarly, AT&T relies on alternative wholesalers only in relatively unusual situations. Contrary to the ILEC Report's implication, wholesalers' facilities are not diversely and ubiquitously routed. Rather, their facilities are typically deployed along the same routes as other CLEC facilities, including AT&T's. As a result, wholesalers' facilities are often not located where AT&T would need them. *See* Fea-Giovannucci Reply Dec. ¶ 49; *see also* WorldCom at

²¹² Indeed, as Allegiance explains (at 28), it "remains critically dependent on ILEC transport even in those urban markets that have seen the most significant investment in competitive sources of interoffice transport," such as "the Washington, D.C. LATA, [in which] Allegiance leases 61 percent of its local DS-3 transport from Verizon."

23 (“most of the CLECs that have built transmission facilities have built them in core urban areas where substantial redundant fiber and switching capacity already existed”).

In addition, there are numerous practical constraints on CLECs’ ability to use wholesalers’ networks. As Verizon’s experience with MFN dramatically illustrates, many wholesalers are in a financially precarious position, and carriers cannot assume that a wholesaler will remain in business and continue to provide uninterrupted service. *See, e.g., Allegiance* at 11 (“carriers will only purchase from financially stable third parties,” because “of the possibility that the third party will be forced into bankruptcy, thereby jeopardizing the continued provision of service to its customers”); *Eschelon*, *Kunde Aff.* at 6 (“[t]he market situation makes third party providers of these elements less available and, in some cases, less predictable because some of these companies are struggling to stay in business”). Indeed, more than half of the carriers on AT&T’s list of pre-approved providers of alternative transport are now in bankruptcy. *See Fea-Giovannucci Reply Dec.* ¶ 55. Equally important, AT&T has faced numerous situations in recent months in which the continued availability of supply from one of AT&T’s third party suppliers has been thrown in doubt, and AT&T has had to expend considerable resources to ensure that a backup source of supply would be available. *See Fea-Giovannucci Reply Dec.* ¶¶ 55-56. These episodes have dramatically demonstrated the increased costs and unreliability of relying on a “patchwork” network of alternative suppliers.

Capacity on wholesalers’ networks is also often very expensive, because wholesalers typically price their services just under the price umbrella of the ILECs’ special access services. *Fea-Giovannucci Reply Dec.* ¶ 54. Moreover, use of a wholesaler’s network often requires inefficient routing, and physically interconnecting with wholesalers’ facilities often poses costly logistical and other practical problems that the ILECs typically do not face because of their large

and integrated networks. *See, e.g.*, Dark Fiber Commenters at 29-30 (“even in the rare instances where CLECs have access to another collocated CLEC’s spare fiber, it often takes the ILEC months to make the connection necessary for the CLEC to use such alternative fiber”). ILECs relying on their own ubiquitous transport networks do not face these constraints, each of which impose real and substantial costs on competitive LECs.

In an effort to address these practical impairments of connecting alternatively supplied transport, the ILEC Report asserts that access points to alternatively supplied transport are available in the form of so-called “collocation hotels.” But the ILEC Report’s claims are grossly inaccurate. *See* ILEC Report at III-4-6. The ILEC Report makes the hyperbolic claim that “the ILEC wire center is no longer the only – or even principal – point of traffic concentration,” and that the existence of collocation hotels means that a competitive LEC “no longer has to grow organically; it can just locate itself in the right building,” ILEC Report at III-4-5. Nothing could be further from the truth. First, the ILEC Report’s attempt to catalogue collocation hotels in the top 50 MSAs greatly overstates the presence of collocation hotels. For example, ECOLO.com constitutes a large proportion of the entries in the ILEC Report’s listing of collocation hotels (*see* ILEC Report at Appendix G), but ECOLO.com’s own website indicates that *it is not a collocation hotel at all*. Rather, it is an intermediary that helps corporate clients find telecommunications resources, principally for data services. Indeed, *most* of the collocation hotels on the ILECs’ list are actually (or principally) data centers that serve ISPs and other Internet-related companies. *See* Pfau Reply Dec. ¶¶ 51-62.

Moreover, the collocation hotels that do exist generally are not viable alternatives to ILEC arrangements. Collocation hotels are typically designed to serve data providers (such as ISPs), and generally are adequate only to permit such providers to connect to one another.

CLECs that provide a full array of local services, however, need access to the ILEC's network facilities, and collocation hotels simply cannot offer a substitute for such access. Fea-Giovannucci Reply Dec. ¶ 45.

In short, there is no effective wholesale market for competitive transport facilities. As a result, AT&T generally has no choice but to purchase transport from the ILEC. *See also* AT&T at 149-51; Fea-Taggart Use Restrictions Dec. ¶ 6.

Capital Markets Have Sharply Curtailed Funding For Facilities Investment. The capital markets have recognized that CLECs have deployed facilities that are not generating sufficient revenues. As a result, they have largely closed their doors to CLECs seeking new investment. The Commission's decision in the *UNE Remand Order* to require the unbundling of all types of transmission UNEs was made at a time (1999) in which capital was readily available to competitors who wanted to construct new facilities. But no more. Since the collapse of the "internet bubble" in 2000, capital markets have been generally hostile to requests to fund telecommunications projects. *See, e.g.,* Allegiance at 9 ("capital markets have been essentially closed to competitive providers of telecommunications service and are unlikely to be opened any time in the foreseeable future"); WorldCom at 22 ("[w]ith the change in the market, there is extremely limited available capital for competitive carriers to extend their networks"); UNE Platform Coalition at 10 ("[t]he competitive telecommunications market is generally in a financially precarious position"). Indeed, even Chairman Powell has recognized that there is a "capital crisis" in the industry.²¹³

²¹³ *See* FCC New Release, *FCC Chairman Michael Powell Appointed to President Bush's Corporate Fraud Task Force* (July 9, 2002).

This financial collapse has had two major effects on competitors' ability to construct new facilities. First, it means that most CLECs cannot obtain funds for the type of network expansion that was possible between 1996 and 1999, and that the CLECs that are able to raise some capital face enormous capital costs and constraints. *See, e.g.,* Eschelon at 3 ("Wall Street has little interest in providing more equity or debt for CLECs to fund additional investment in telecommunications facilities . . . [and] external sources of funding have dried up"); Covad at 71 ("[p]lacing fiber transport is an expensive business and not one that Covad could be expected to enter anew during this time of scarce capital"). Indeed, the capital markets began to close almost immediately after the *UNE Remand Order*. Moreover, the trickle of capital that remains available will only be meted out to carriers with rock-solid business plans that show significant prospects of profitability and extremely short "payback" periods. Projections of future profitability no longer inspire lenders to open their wallets. Only actual showings of the likelihood of real customers and real revenues – in the short term – can generate capital now.

Moreover, the financially precarious state of many CLECs has seriously reduced the likelihood that customers will turn to new entrants rather than the incumbents. Customers are wary of purchasing telecommunications services from CLECs, for fear that they may join the many other competitors that have disappeared or are in bankruptcy and that their service will be interrupted. *See, e.g.,* AT&T at 142; Fea-Giovannucci Reply Dec. ¶ 55; Fea-Taggart Use Restriction Dec. ¶¶ 32-37. And the financial meltdown also severely restricts competitive LECs' ability to turn to the few third party wholesalers that may have the prospect of continuing operations. *See, e.g.,* Allegiance at 11 ("carriers will only purchase from financially stable third parties," because "of the possibility that the third party will be forced into bankruptcy, thereby jeopardizing the continued provision of service to its customers"); Eschelon, Kunde Aff. at 6

("[t]he market situation makes third party providers of these elements less available and, in some cases, less predictable because some of these companies are struggling to stay in business").

In addition, the ILECs' increasing entry into the long distance market (through the granting of Section 271 applications) makes matters worse. Because the capital markets have essentially closed their doors to new investment, CLECs generally must fund deployment of facilities through internally generated capital. The ILECs, however, do not face the converse problem – *i.e.*, the ILECs can easily enter the long distance market through resale of existing carriers' services, because the Commission's resale rules and the robust competitiveness of the long distance market allows the ILECs to offer retail service immediately relying on wholesale rates that represent deep discounts over retail rates. As a result, CLECs are caught in a vicious cycle. As the ILECs offer long distance service, they draw revenue away from competitors such as AT&T and WorldCom, which further hampers those entrants' ability to generate internal capital for the deployment of local facilities, which in turn simply increases the ILEC's competitive advantages. *See* Lesher Reply Dec. ¶¶ 43-44.

In sum, as Eschelon (at 15) states, "[t]he closing of capital markets to CLECs makes the continued availability of unbundled network elements from the ILEC imperative for the survival of competition in local telecommunications." *See also* Allegiance at 9 ("[a]s Commissioner Abernathy recently observed, 'if the Commission were to conclude [as it must] that CLECs are unable to obtain the capital required to deploy new networks, it would then need to assess the availability of facilities under section 251(c) to ensure that CLECs' ability to provide service is not 'impaired'").

C. State Commissions Should Consider De-Listing Dedicated Transport Only On A CLEC-Specific Basis Along Particular Routes Based On CLEC Traffic Demand, And The Commission Should Not Adopt The Simplistic and Overinclusive "Triggers" Proposed By The ILECs.

As the above discussion demonstrates, there is no basis at present for the de-listing of dedicated transport. Moreover, as AT&T has previously shown (at 248-51), the Commission should not unilaterally de-list any element, but instead it should work with the State commissions and permit the states to take the lead in identifying concrete situations in which de-listing might be appropriate. *See also infra* Part XI (describing state role in de-listing). Although de-listing transport at this time would be premature, AT&T nonetheless sketches out here some of the factors that a State commission should assess in the future when determining whether to de-list dedicated transport in any particular market.

Critically, a State commission must base any de-listing decision on the real-world factors that determine whether a CLEC is truly unimpaired without ILEC transport. Dedicated transport is route-specific. Thus, unless there is evidence of a fully competitive market for transport on a particular route, the question whether any particular CLEC is impaired on a given route is a function of whether or not that CLEC has enough traffic on that route – and that route alone – to justify the enormous fixed costs and time commitment necessary to actually deploy its own transport facility. Accordingly, in the absence of a demonstration that CLECs generally have access to competitive choice in the volumes they need and at efficient cost-based rates (*i.e.*, TELRIC), a State commission should only be allowed to recommend de-listing on a CLEC-by-CLEC and route-by-route basis. Such analyses should focus on whether the CLEC has enough traffic on the identified routes to enable them to achieve economies of scale comparable to the incumbents' (such that construction of its own transport facility would be economic), and whether there are any additional barriers to entry (such as lack of access to the necessary rights

of way). *See USTA*, 290 F.3d at 426-28 (CLECs are impaired where they suffer cost disparities because of economies of scale traceable to the natural monopoly characteristics of incumbent networks). In addition, de-listing should not be considered unless all use and commingling restrictions are removed (so the CLEC can plan and implement as efficient a network as possible) and there are sufficient performance measures and remedies available with respect to ILEC special access services, since that is what the CLECs would be required to purchase if they cannot obtain an alternative facility.

By contrast, the Commission should not adopt the simplistic and anticompetitive “triggers” for de-listing transport proposed by SBC and Qwest. Those triggers rely heavily on the triggers the Commission adopted in the context of pricing flexibility for access services, which would be wholly inappropriate for the present circumstances (as the Commission has previously recognized).

1. State Commissions’ Recommendations Concerning De-Listing Should Focus On Whether Individual CLECs Have Realistic Alternatives On Each Affected Route.

The factors a State commission considers in determining whether dedicated transport may be removed as an unbundled element in specific circumstances must, of course, reflect the core economic realities that (1) the relevant market for transport facilities is extremely localized and exists only on a route-by-route basis (*see Notice* ¶ 62), and (2) capital markets have effectively dried up, especially for new entrants. Further, any such analysis must recognize that competition is most likely to develop first for the highest capacity levels (*e.g.*, OCn). *See id.* ¶ 41. Thus, impairment must be analyzed on both a route-by-route basis and a capacity-specific basis, and the scope of “de-listing” must be limited to those routes and those capacity levels where self-deployment by multiple carriers is economically feasible and capital is available at viable rates.

Specifically, the State commissions should undertake two overarching inquiries. First, they should assess whether, for the routes and capacity levels in question, alternative transport facilities are in fact available to CLECs. This in turn requires an examination of such factors as whether:

- alternative carriers are actually offering (and carriers are actually purchasing) transport on the identified individual routes;
- there are sufficient competitors to assure long-run supply at efficient pricing levels (*i.e.*, TELRIC) after the ILEC is freed of its unbundling obligations;
- the alternative providers financially stable;
- the competitive alternatives use different facilities, or whether they share a common facility;
- there is alternative supply available on the identified routes to meet the projected needs of all CLECs that do not supply their own transport facilities;
- the alternative supply is available at lower capacity levels (*e.g.*, DS-1 or only a few DS-3s) for CLECs that have only modest traffic volumes; and
- CLECs are able to purchase alternative supply from a reasonably limited set of providers with sufficiently sized footprints so that they can avoid the need to manage a "patchwork network."

In addition, competitively supplied transport still requires some cooperation from the ILEC. Thus, in addition to the above factors, a State should also examine whether the ILECs provide necessary technical support to provide dedicated transport, including the availability of cross-connects at cost-based rates; cooperation to enable third-party through testing; and circuit grooming in sufficient quantities to meet competitors' needs.

Second, to the extent that the State commission would de-list transport on a carrier-specific basis, States should examine whether – for each of the routes and capacity levels in

question – the CLEC realistically has the ability profitably to self-deploy transport facilities.

This in turn requires an examination of such factors as whether:

- capital is actually available for financing transport facilities, including a review that assures the CLECs' costs for such capital do not preclude economic construction;
- there is sufficient volume of committed customer demand for a sufficient period to justify the construction of facilities;
- the CLEC can obtain necessary rights of way in a reasonable time and at a comparable cost to the ILEC; and
- the CLEC's customers will allow it to migrate their usage from ILEC-owned UNE transport to CLEC-owned facilities.

Third, the States should be required to identify a process (subject to reasonable minima established by the Commission) that addresses the transition period that would apply in any case here the State finds that dedicated transport on specific routes (and at identified capacity levels) may be removed as UNEs. This is critical to enable affected carriers to make other arrangements in light of the changed rules.

2. The Commission Should Reject The "Triggers" Proposed By The ILECs.

By contrast, the Commission should reject SBC's and Qwest's crude "triggers" for de-listing dedicated transport. *See* SBC at 88; Qwest at 32, 35-36. SBC argues that the Commission should de-list all loops and transport at a DS-3 and above level immediately, and that it should de-list DS-1 loops and transport at wire centers that (1) have two or more fiber-based collocators, or (2) have at least 15,000 business lines, or (3) generate at least \$150,000 in special access revenues. SBC at 88, 101. Qwest proposes that the Commission should de-list dedicated transport in any MSA that has met the triggers for pricing flexibility for dedicated transport – *i.e.*, transport would be de-listed in any MSA in which a certain percentage of the

wire centers in that MSA had at least one “fiber-based” collocator (a carrier using non-ILEC fiber). Qwest at 32, 35-36.²¹⁴

These triggers are entirely inappropriate, because they do not at all address the real-world circumstances that determine whether or not a CLEC would be impaired without unbundled transport. First, as explained above, the complete de-listing of all DS-3 transport (as proposed by SBC) would be inappropriate, because, as explained above, a CLEC needs a substantial number of DS-3s on any given route before it could ever consider deploying transport facilities on that route. *See supra* Part VIII.A; Fea-Giovannucci Reply Dec. ¶ 25; Leshner Reply Dec. ¶ 48. Thus, it follows that the de-listing of DS-1 transport would not be appropriate under any circumstances. But SBC’s trigger for DS-1 transport (and Qwest’s trigger for any dedicated transport) would make no sense in any event. SBC and Qwest both borrow the Commission’s “fiber-based” collocation trigger from the pricing flexibility context, but that test has no application here. The mere presence of one or two “fiber-based” collocators does not mean that there is a reasonably competitive market with competitive pricing for transport. To the contrary, the “first” CLEC typically prices transport at (or marginally below) the ILEC’s special access rates. Thus, such triggers place the balance of the CLEC industry at the mercy of the ILEC and first CLEC to deploy transport in the needed locations. Therefore, de-listing transport for all CLECs based on the fact that only one or two CLECs have deployed transport to *some* point-to-point route out of the office does not address whether there is in fact any competition on the route the CLEC needs.

²¹⁴ Qwest’s comments do not specify whether it advocates that the Commission use the *Pricing Flexibility Order*’s “Phase I” or “Phase II” trigger as the trigger to de-list dedicated transport; the Phase I trigger requires a fiber-based collocator in 15 percent of the wire centers in an MSA, while Phase II requires collocators in 50 percent of the wire centers. The *Pricing Flexibility Order* also establishes an alternative trigger that provides relief when fiber-based collocators exist in wire centers representing a certain percentage of the LEC’s revenues from those services in that MSA.

Moreover, even if one or two carriers did have facilities on that route it would simply confer an undue competitive advantage on them, without proof that the CLEC has an economic alternative.

Relatedly, the pricing flexibility triggers would create inappropriate incentives for the industry and would not serve the broader objectives of local service competition. A “fiber-based collocator” test creates harmful incentives, because under such a rule the first CLEC to deploy facilities gains an artificial, regulatory advantage over all other CLECs. In such a situation, unless the ILEC is still required to charge TELRIC rates to other CLECs, the trigger would only create an incentive for the “first” CLEC to offer capacity at marginally lower prices than the retail prices established by the ILEC. This, in turn, would result in less choice of retail service suppliers and higher prices to consumers. If, however, the ILEC is still required to provide unbundled transport to other CLECs at TELRIC – a price likely well in excess of its incremental cost of supply – the other CLECs providing capacity in the office would be limited to TELRIC as well.

Moreover, under the *Pricing Flexibility Order* (¶ 151), even in wire centers where there is a fiber-based collocator, the Commission has found that the ILECs retain market power, and thus the Commission has properly found it appropriate to continue to regulate them as dominant carriers – even after they have obtained Phase II relief. Indeed, the Commission has consistently held that the mere existence of “fiber-based” collocations has no direct bearing on the impairment analysis, and its reasons still hold true even after the D.C. Circuit’s decision in *USTA*. See *UNE Remand Order* ¶ 341 n.673 (pricing flexibility triggers do not “describe market conditions where requesting carriers would not be impaired without access to unbundled transport”). The Commission designed the collocation test to be an administratively simple, bright-line rule that would permit the ILECs to adjust their special access prices to respond to

nascent competitors at an early stage of competitive entry, without having to wait for the ILEC to lose market power. *Pricing Flexibility Order* ¶¶ 84, 90. Indeed, the Commission *expressly found* that, even after the triggers have been satisfied, the ILECs continue to have market power with respect to the relevant services. *Id.* ¶¶ 90, 151. Thus, the ILECs' claims, even if true, cannot be dispositive of the issue of CLEC impairment.

Further, experience with the pricing flexibility triggers has shown that they give incumbents pricing relief prematurely. Indeed, as AT&T showed (at 122), Verizon and BellSouth recently *raised* their special access rates in all of the MSAs in which they have obtained Phase II pricing flexibility – pricing behavior that is starkly at odds with the notion that “fiber-based” collocators are placing competitive pressure on the ILECs' special access rates, and thus provide reasonable alternatives to unbundled network elements. *See Leshner Reply Dec.* ¶ 49. The crude, bright-line pricing flexibility trigger, which was adopted for entirely different purposes, is not an appropriate replacement for the Commission's full impairment inquiry.²¹⁵

Similarly, the second prong of SBC's proposed trigger – de-listing DS-1 transport in any wire center in which there are 15,000 business lines – is derived solely from the ILEC Report's assertion that deployment of transport is economical in any wire center with at least 5,000 business lines (SBC triples the figure in its proposed trigger in a show of generosity). *See SBC* at 92. As shown below, however, the *Broadband 2001 Report*, which is the only source upon which the ILEC Report relies, does not support that “fact.” More fundamentally, however, the

²¹⁵ *See also* NYDPS at 5 (“[e]ven in lower/midtown Manhattan, Verizon facilities (retail and wholesale) still serve over half of all special service circuits”); *Allegiance* at 7-8 (“[w]here it is clear that the ILECs possess substantial market power in all geographic areas, it would be a waste of administrative resources to establish granular geographic markets. Separate geographic markets should only be defined where different geographic areas demonstrate significantly different levels of ILEC market power in the provision of UNE inputs”).

mere existence of 15,000 business lines in a wire center does not indicate that any particular CLEC could economically build or purchase alternative transport facilities in that wire center. If a wire center has fifteen thousand business lines, and if one assumes that a LEC will employ concentration of 3:1 (which is likely conservative for business customers), the result would be that a CLEC with 100 percent market share could place 5,000 lines on its transport facilities, which (assuming 80% utilization) would equate to roughly nine DS-3s. Of course, the Commission could not reasonably expect CLECs to win all of the business lines in a wire center, and even if the CLEC wins 25 percent of the traffic from such an office, it would only have about two DS-3s of traffic – far below the level of traffic necessary to justify deploying its own transport. *See* Leshner Reply Dec. ¶ 50.

The third prong of SBC's proposed trigger – to de-list in any wire center that has \$150,000 per month of special access revenue – is fundamentally flawed for exactly the same reason. The mere fact that there is \$150,000 per month in special access revenue in a wire center has nothing whatsoever to do with the determinative consideration, which is whether there are realistic alternatives available to a CLEC.

D. The Other Transport-Related Claims In the ILEC Report Are Not Supported By Fact.

The ILEC Report makes a number of other assertions in an attempt to prove that alternative transport is widely available. These showings are fundamentally flawed even on their own terms.

In particular, the ILECs claim that requesting carriers are not impaired in their ability to offer service without access to unbundled transport because competitive LECs and others have in fact deployed transport facilities at a “rapid pace” and that such facilities are now “widespread” and, for all intents and purposes, ubiquitous. *See* Verizon at 105-11; SBC at 85-94; BellSouth at

91-95; Qwest at 33-38. To support this claim, the ILECs rely entirely on the ILEC Report, which in turn attempts to prove its case by purporting to demonstrate the following “facts”: (1) that CLECs have obtained a large number of “fiber-based” collocations; (2) that CLECs can profitably collocate in any central office with at least 5,000 business lines; and (3) that CLECs have deployed a large number of fiber miles of interoffice transport. The ILEC Report’s showing as to each of these supposed “facts” is fundamentally flawed or misleading.

“Fiber-Based” Collocations. The ILECs assert that CLECs have established extensive “fiber-based” collocations, defined (in accordance with the *Pricing Flexibility Order* triggers) as a collocation in which the collocator relies on transport facilities provided by a transport provider other than the incumbent. *See Pricing Flexibility Order* ¶ 82. In the ILECs’ view, these collocations imply that competitive LECs have deployed extensive interoffice transport, and that there is accordingly no longer any need to require incumbents to provide dedicated transport on an unbundled basis. Verizon at 106-07; SBC at 86; Qwest at 33; ILEC Report at III-2 – III-4; *see also* BellSouth at 91-92 (citing ILEC Report). The ILECs’ “data,” however, do not demonstrate a lack of impairment for several reasons.

As a threshold matter, the ILECs’ claims concerning the extent of fiber-based collocations are pure assertion. The ILEC Report simply presents aggregate data in three tables. *See* ILEC Report at III-2 – III-3 (Tables 1-3). The ILECs provide none of the underlying documentation that would substantiate any of these data,²¹⁶ nor does any ILEC affiant swear to the accuracy of the data. As a result, the ILECs’ assertions are inherently unreliable; neither the

²¹⁶ By contrast, in the context of pricing flexibility petitions, the Commission’s rules require ILECs to provide the location of each collocation on which the petition is based and the name of the collocator that uses non-ILEC transport. 47 C.F.R. § 1.774(a)(3)(ii) and (iii). This permits the Commission and other interested parties to check the accuracy of the ILECs’ assertions.

Commission nor third parties have any means of verifying the ILECs' claims. This is not an idle concern, for two reasons. First, the ILEC Report states that its data are as of "year-end 2001." But a number of fiber-based CLECs have declared bankruptcy since the beginning of the year, and a substantial number of those collocations may therefore be inactive now. More fundamentally, the ILEC Report provides no description of how the data were gathered, and it is possible that the ILEC Report is relying in part on data that the ILECs collected as long as two years ago when they prepared their pricing flexibility petitions. Substantially more fiber-based CLECs have gone bankrupt in the last two years; thus, many more of the reported collocations may also be inactive at this time. Indeed, the ILEC Report is carefully worded and does not even claim that any of these collocations are actively in use; rather, it states only that, as of year-end 2001, CLECs "had obtained" them. *See* ILEC Report at III-3.

But even if accurate, these data do not demonstrate a lack of impairment. Dedicated transport is, by definition, a point-to-point functionality. In many instances, fiber transmission facilities in a collocation do not interconnect with other central offices, but only to an IXC POP. Indeed, the *Pricing Flexibility Order* (§ 81) itself acknowledged that most transmission facilities in a collocation are trunk-side "facilities leading from the collocated equipment to the IXC POP." Similarly, Covad (at 68-69) states that "the existence of a CLEC in a central office does not mean that the CLEC offers transport connection to other central offices. Indeed, the CLEC's transport offerings may originate in the central office, but may terminate in an office building or other off-site facility."²¹⁷ Further, the mere existence of a "fiber-based" collocation indicates

²¹⁷ Although the ILEC Report asserts (at III-1) that CAPs first laid fiber in 1985 and the Commission has permitted collocation since 1992 – as if companies have been building dedicated interoffice transport links all that time – CAP transmission facilities in fact were generally limited to links between wire centers and IXC POPs (*i.e.*, entrance facilities). *See, e.g.*, Covad at 69 ("CAPs historically provided connectivity between ILEC central offices and points-

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nothing about the capacity of the fiber. *See, e.g.,* Eschelon at 25 (“[t]he mere market presence of alternative providers in certain discrete locations does not necessarily mean that providers have sufficient capacity to provide to other CLECs[, n]or do these carriers have an obligation to meet CLEC demand”).

Critically, the ILECs’ own data demonstrate that there is actually very limited deployment of alternative transport. In the *UNE Remand Order* (¶¶ 344-45), the Commission reasonably explained that the presence of only one fiber-based collocator in a wire center would be insufficient to indicate a lack of impairment. The ILECs’ own data, however, taken at face value, show that there are two or more such collocators in only 7 percent of their wire centers. ILEC Report at III-2 (Table 1). And even in the top 25 MSAs, there are two or more fiber-based collocators in only 19 percent of the wire centers. ILEC Report at III-3 (Table 2). Thus, the ILECs’ own data confirm that there is no more than one collocator in the vast majority of ILEC wire centers. And even these figures tend to overstate the presence of competitive transport, because the mere fact that a carrier has a “fiber-based” collocation certainly does not mean that it has fiber on all the routes CLECs might need from that wire center. In other words, the mere fact that there are two collocators in a central office does not mean that there are two alternative fiber-based transport providers along any given point-to-point route originating in that office.

Even the ILECs’ attempt to characterize these data in the most favorable way possible demonstrates that there is limited alternative deployment. Each of the ILECs repeats the ILEC Report’s assertion (at III-2) that at least one CLEC had obtained a fiber-based collocation in wire centers representing 54 percent of business lines and 44 percent of access lines served by BOCs,

(. . . continued)

of-presence of interexchange carriers. Those CAPs did not, however, typically connect ILEC
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and that in the top 25 BOC MSAs, CLECs had fiber-based collocations in an average of 35 percent of the wire centers, representing 61 percent of the access lines in those MSAs.²¹⁸ Taking these assertions at face value, they demonstrate that there is *no* fiber-based CLEC offering service to roughly half of the BOCs' lines, and of the lines served by fiber-based CLECs, about half of those lines are served by only one fiber-based CLEC. *See also* WorldCom at 76 (“[i]n many of the wire centers with competitive transport only a single alternative is available”); Allegiance at 27.

In contrast to the ILECs' unsupported assertions, CLECs have provided sworn testimony by subject matter experts that *actual* transport deployment is extremely limited. As AT&T has demonstrated, it self-provides only a small percentage of its interoffice transport, and in most cases it must rely on ILEC transport facilities. *See* Fea-Giovannucci Reply Dec. ¶ 58; Fea-Taggart Use Restriction Dec. ¶ 6. Other competitive LECs in this proceeding confirm, also with sworn testimony, that they are able to self-provision interoffice transport only a small percentage of the time. *See, e.g.,* WorldCom at 76-77 & Fleming Declaration (“[n]o competitor provides alternative transport to more than a handful of incumbent LEC central offices”); Covad at 67-68 & Declaration of Mark Shipley & Marie Chang (in “four key markets[,] Chicago, New York City, San Francisco and Washington, D.C[,] . . . as of June 11, 2001, . . . about half of the time, the only transport available to Covad is provided by the ILEC,” and without “unbundled transport, Covad would be stranded at nearly 50% of its collocation sites”); Eschelon at 4 (in Eschelon's markets “the ILECs are, for the most part, the single supplier of necessary network

(. . . continued)
central offices to one another”).

²¹⁸ *See* BellSouth at 92; SBC at 86; Qwest at 33; Verizon at 106.